



LAW ENFORCEMENT OF TRAFFIC ACCIDENT OFFENSES IN TANJUNGPINANG: EFFECTIVENESS OF ARTICLES 310 AND 311

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Abstract

This study analyzes the law enforcement of traffic accident offenses in Tanjungpinang, with particular attention to the effectiveness of Articles 310 and 311 of Law Number 22 of 2009 concerning Road Traffic and Transportation in reducing victim fatalities. The study employs a normative-empirical legal approach combining statutory, conceptual, and empirical approaches. Data were obtained through in-depth interviews, document analysis, and literature review, and were analyzed qualitatively using juridical reasoning, data reduction, classification, legal interpretation, and deductive conclusion drawing. The findings indicate that traffic accident cases handled by the Tanjungpinang City Police Traffic Unit are more frequently classified as negligence offenses under Article 310, while Article 311 is applied more selectively because the element of intentional dangerous driving is more difficult to prove. Investigators generally follow established procedures, but face limitations in accident-investigation equipment, CCTV coverage, eyewitness evidence, personnel capacity, and interagency coordination. The study concludes that effective reduction of fatalities requires consistent and evidence-based application of Articles 310 and 311, stronger investigator competence, modern investigation facilities, improved road safety infrastructure, sustained public education, and integrated preventive measures.

Keywords: Criminal Liability; Fatality; Law Enforcement; Tanjungpinang; Traffic Accidents

INTRODUCTION

Traffic is a central part of public mobility, connecting socio-economic activities, the distribution of goods and services, education, and healthcare. In a constitutional state and welfare state, safe and orderly traffic is not merely a technical transportation issue; it is part of the state responsibility to protect citizens and promote public welfare. Constitutional guarantees concerning personal protection, security, and the right to live with dignity provide a normative basis for treating road safety as a public issue. The organization of road traffic is therefore expected to create conditions that are safe, secure, orderly, and smooth, while law enforcement serves both regulatory and protective functions.

In practice, increasing vehicle ownership, human mobility, and urban activity also increase exposure to traffic risks. Traffic accidents produce consequences that extend beyond the immediate event, including deaths, serious injuries, disability, trauma, family economic losses, and social costs. For this reason, traffic law should be understood as an instrument for public safety as well as the orderly use of public road space. Law Number 22 of 2009 concerning Road Traffic and Transportation (UU LLAJ) constitutes the principal sectoral legal framework regulating traffic organization, supervision, user behavior, and criminal sanctions.

When an accident occurs, the legal consequences may enter the sphere of criminal liability because the event can involve a breach of the duty of care and/or a violation of traffic rules that results in casualties. UU LLAJ distinguishes the nature of fault between negligence under Article 310 and intentional dangerous driving under Article 311. Article 310 addresses negligent driving that causes an accident with consequences ranging from property damage to minor injury, serious injury, or death. Article 311 addresses driving intentionally in a manner or condition that endangers the lives or property of other road users, with heavier criminal consequences when serious injury or death occurs. This distinction makes the accurate identification and proof of the offender's mental element a central issue in law enforcement.

The normative distinction is also important from an effectiveness perspective. Criminal law enforcement is expected not only to resolve cases after an accident but also to create a deterrent effect and encourage safer behavior. Whether this objective is achieved depends on the consistency of legal qualification, the quality of evidence, the capacity of investigators, the availability of investigation facilities, and public compliance. The literature reviewed in the thesis emphasizes that the effectiveness of law enforcement is shaped by the interaction of legal substance, law enforcement officials, facilities, society, and legal culture (Soekanto, 2020).

The empirical context in Tanjungpinang illustrates why this issue remains relevant. According to the data cited in the thesis, approximately 163 traffic accidents were recorded in 2024, involving 24 deaths, 3 serious injuries, and 252 minor injuries. Publications cited in the thesis reported 143 accidents in 2025, involving 18 deaths, 2 serious injuries, and 251 minor injuries. Although the later figure indicates a lower number of recorded accidents and deaths, fatalities and serious injuries remained present. The thesis therefore treats effectiveness not simply as the number of cases processed, but as the capacity of law enforcement to protect victims and prevent deaths and serious injuries.

Law enforcement in traffic accident cases also operates through several stages. Police officers secure the scene, assist victims, collect evidence, investigate and determine suspects, and forward case files; prosecutors examine files and conduct prosecution; and courts assess evidence and render decisions. The thesis also records the occurrence of family-based settlements or restorative approaches in certain cases. Such approaches may reduce social conflict or support recovery, but the research identifies an academic question concerning how these practices relate to criminal accountability, deterrence, and the preventive purpose of Articles 310 and 311.

The problem is not limited to the existence of legal norms. In practice, investigators may face limited CCTV coverage, a shortage of direct eyewitnesses, damaged or incomplete physical evidence, and difficulties in proving intentional dangerous driving. Differences in legal qualification between negligence and intent can affect the applicable criminal provision and the legal consequences for the parties. In addition, road conditions, traffic behavior, and legal culture can influence both accident occurrence and the practical operation of the law. The thesis consequently approaches the issue through a normative-empirical analysis that connects law in books with law in action.

Previous studies reviewed in the thesis have generally focused on the general effectiveness of traffic law enforcement, judicial decisions concerning Articles 310 and 311, fatal accidents in other cities, or normative questions of criminal responsibility. The present study narrows the focus to the application and effectiveness of Articles 310 and 311 in Tanjungpinang and treats victim fatality as an important indicator of practical effectiveness. Its novelty lies in integrating normative analysis with field-level evidence concerning investigators, case handling, evidence, institutional limitations, and prevention measures.

Based on this background, the study addresses three questions: (1) how are traffic accident offenses regulated under Articles 310 and 311 of the UU LLAJ; (2) how is law enforcement for traffic accident offenses implemented in Tanjungpinang; and (3) what obstacles and solutions affect the effectiveness of Articles 310 and 311 in reducing traffic accident fatalities? The purpose is to analyze the legal regulation, implementation, obstacles, and possible strengthening of law enforcement so that criminal enforcement can operate consistently with the objectives of legal certainty, justice, usefulness, and public safety.

LITERATURE REVIEW

Legal Objectives Theory (Gustav Radbruch)

Gustav Radbruch's Legal Objectives Theory is used in the thesis as the grand theory. It explains that law contains three main objectives: justice (*gerechtigkeits*), legal certainty (*rechtssicherheit*), and usefulness or expediency (*zweckmäßigkeit*). These objectives are interconnected and must be considered proportionally in law-making and law enforcement. In the context of traffic accident law, the theory makes it possible to assess not only whether Articles 310 and 311 provide a clear legal basis, but also whether their application protects victims and produces practical benefits for traffic safety (Radbruch, 2014).

The relevance of Radbruch's theory in this study lies in the relationship between formal criminal enforcement and substantive protection. Justice requires that victims receive appropriate protection while offenders are treated proportionally according to the level of fault. Legal certainty requires consistent qualification and application of Articles 310 and 311 so that similar facts are treated consistently. Usefulness requires the law to provide tangible social benefits, including stronger compliance and reduced victim fatalities. Accordingly, a formally correct process is not sufficient if it does not support public safety and the protection of life.

Law Enforcement Theory (Soerjono Soekanto)

Soerjono Soekanto's Law Enforcement Theory is used as the middle theory. It explains that the success or failure of law enforcement is influenced by five factors: legal substance, law enforcement officers, facilities and infrastructure, society, and legal culture (Soekanto, 2020). These factors interact rather than operate independently. Clear legal norms can still produce weak outcomes when investigators lack competence or equipment, when coordination is poor, or when community compliance is low.

In this study, the theory is applied to examine whether the wording of Articles 310 and 311 is sufficiently clear for consistent application; how police, prosecutors, and courts perform their functions; how investigation facilities and data systems affect evidence; how traffic users respond to the law; and how social attitudes toward traffic violations and family settlements shape enforcement. The framework is therefore directly connected to the thesis finding that legal effectiveness depends on a combination of normative, institutional, technical, social, and cultural factors.

Legal Effectiveness Theory (Lawrence M. Friedman)

Lawrence M. Friedman's theory is used as the applied theory. Friedman views law as a system consisting of legal structure, legal substance, and legal culture (Friedman, 2020). Legal structure refers to institutions and officials that apply the law; legal substance includes the rules that define rights, duties, offenses, and sanctions; and legal culture encompasses the attitudes and values through which people perceive and respond to law. The thesis uses these three elements to assess why formal rules may exist but still produce outcomes that are not optimal in practice.

The framework is particularly useful for traffic accident cases because the implementation of Articles 310 and 311 requires institutional capacity, reliable evidence, clear legal qualification, and public compliance. In the thesis findings, the legal substance is considered relatively clear, while weaknesses appear more strongly in investigation facilities, personnel capacity, evidence acquisition, public awareness, and legal culture. The theory therefore supports an integrated interpretation of the empirical findings.

Articles 310 and 311 of the UU LLAJ

Article 310 focuses on negligence (*culpa*), while Article 311 focuses on intentional driving in a manner or condition that endangers life or property. The distinction has practical significance because the two provisions differ in the fault element and the maximum criminal exposure. The thesis emphasizes that the determination of the correct article must be based on legally admissible evidence and a demonstrable causal relationship between the conduct and the resulting harm.

Table 1. Comparison of Articles 310 and 311 of Law Number 22 of 2009

Aspect	Article 310, UU LLAJ	Article 311, UU LLAJ
Nature of conduct	Negligence (<i>culpa</i>) in operating a motor vehicle that causes a traffic accident	Intentional driving in a manner or condition that endangers life or property
Element of fault	Negligence / lack of due care	Intent (<i>dolus</i>)
Protected object	Road-user safety from negligent driving	Road-user safety from dangerous driving
Legal consequence	May result in vehicle damage, minor injury, serious injury, or death	Dangerous driving may result in damage, minor injury, serious injury, or death
Criminal threat	Graduated according to the consequence under paragraphs (1)–(4); up to 6 years' imprisonment when death occurs	Graduated according to the consequence under paragraphs (1)–(5); up to 12 years' imprisonment when death occurs
Form of liability	Based on negligence	Based on intent
Regulatory purpose	Sanctioning accidents caused by lack of due care	Creating a deterrent effect against consciously dangerous driving

Previous Research and Research Gap

The thesis reviews five studies considered relevant. Muhammad Rizky Pratama (2024) identified legal substance, enforcement officers, facilities, and community legal culture as factors affecting traffic law enforcement, but the study was framed generally at the national level. Dewi Lestari (2023) examined the application of Articles 310 and 311 in court decisions and identified inconsistency in distinguishing negligence and intent; the thesis distinguishes

LAW ENFORCEMENT OF TRAFFIC ACCIDENT OFFENSES IN TANJUNGPINANG: EFFECTIVENESS OF ARTICLES 310 AND 311

Rahadi Pratama **et al**

itself through a broader normative-empirical field focus. Ahmad Fauzi (2022) found that enforcement of fatal traffic accidents in Makassar had been implemented but was not optimal because of evidentiary obstacles and family-based settlement tendencies. Siti Nurjanah (2021) focused on traffic violations in Jakarta and linked enforcement effectiveness to public legal awareness and supervision. Rudi Hartono (2020) emphasized negligence and evidentiary difficulties in criminal responsibility under Law No. 22 of 2009. The thesis positions the present study as more specific to Tanjungpinang and more explicitly connected to victim fatality and field implementation.

Table 2. Previous Research Reviewed in the Thesis

No.	Author	Year	Title	Main result and distinction from the present study
1	Muhammad Rizky Pratama (Universitas Andalas)	2024	Factors Affecting the Effectiveness of Traffic Accident Law Enforcement in Indonesia	Effectiveness is influenced by legal substance, enforcement officers, facilities, and legal culture. The present study is more specific to Articles 310 and 311 in Tanjungpinang and uses victim fatality as an effectiveness concern.
2	Dewi Lestari (Universitas Airlangga)	2023	Analysis of the Application of Articles 310 and 311 UU LLAJ in Court Decisions on Traffic Accidents	Found inconsistency in distinguishing negligence and intent. The present study uses a normative-empirical approach and includes field implementation.
3	Ahmad Fauzi (Universitas Hasanuddin)	2022	Law Enforcement of Traffic Accident Offenses Resulting in Death: A Study at Makassar City Police	Enforcement had been conducted but was not optimal because of evidence problems and family-based settlement tendencies. The present study covers serious injury as well as death and focuses on Tanjungpinang.
4	Siti Nurjanah (Universitas Indonesia)	2021	Effectiveness of Law Enforcement against Traffic Violations in Reducing Accidents in Jakarta	Low legal awareness and weak supervision limited effectiveness. The present study specifically examines accident offenses under Articles 310 and 311.

No.	Author	Year	Title	Main result and distinction from the present study
5	Rudi Hartono (Universitas Diponegoro)	2020	Juridical Analysis of Criminal Responsibility in Traffic Accidents under Law No. 22 of 2009	Criminal responsibility generally rests on negligence and proof of fault is a practical obstacle. The present study additionally examines effectiveness and fatality reduction through a normative-empirical approach.

The research gap identified in the thesis is therefore the limited integration of normative analysis and field evidence specifically directed at the effectiveness of Articles 310 and 311 in Tanjungpinang. The study addresses that gap by examining legal regulation, implementation by investigators and related institutions, evidence, obstacles, legal culture, and prevention measures in a single analytical framework.

FURTHER THEORETICAL RELEVANCE AND ANALYTICAL FRAMEWORK

The relationship between the three theories used in the thesis can be understood as a layered analytical framework. Radbruch provides the normative question concerning what law should achieve; Soekanto provides the institutional and social factors that influence the operation of law; and Friedman provides an applied system perspective for understanding how legal structure, legal substance, and legal culture interact. The framework allows the research to avoid reducing effectiveness to the number of prosecutions or convictions alone. Instead, effectiveness is considered through the relationship between the clarity of the legal rule, the conduct of the enforcing institutions, the availability and quality of supporting facilities, community behavior, and the practical protection of road users.

From the perspective of legal objectives, the distinction between Articles 310 and 311 also demonstrates the need for proportionality. The same accident outcome does not necessarily imply the same form of fault. A death or serious injury may follow from negligent driving, while in another case it may follow from a driver who consciously engages in conduct that creates a serious and foreseeable danger. Consequently, the legal response must be sensitive to the mental element and causal relationship established by evidence. The thesis links this distinction with the requirement that legal certainty should not eliminate justice or usefulness: certainty is achieved through consistent legal criteria, justice through proportionate accountability, and usefulness through prevention and public safety.

Soekanto's five factors also clarify why legal effectiveness cannot be assessed solely from legislation. A rule may be clearly written but remain underused when enforcement institutions lack personnel or technical capacity. Conversely, strong investigators may still be limited when accident scenes lack CCTV, digital records, witnesses, or reliable forensic facilities. Public behavior adds another layer. If road users routinely disregard speed limits, traffic signals, helmets, seat belts, or mobile-phone restrictions, the criminal law tends to operate after harm has occurred rather than preventing risk at an earlier stage. Legal culture therefore becomes an important link between formal rules and actual road behavior.

Friedman's legal-system approach is relevant to the institutional chain described in the thesis. The police form the primary operational structure for accident response and investigation, while prosecutors and courts continue the process through prosecution and adjudication. The substance of the system is supplied by the UU LLAJ, criminal procedure rules, and related regulations. The culture of law is visible in the community's level of compliance, the public perception of accidents, and the tendency toward settlement through family deliberation. When one component is weak, the intended deterrent and protective function of the system can be reduced. The thesis consequently interprets effectiveness as the product of interaction among all three components rather than the performance of a single institution.

For the purposes of the empirical analysis, victim fatality is treated as a practical indicator of the protective purpose of enforcement. This does not mean that criminal enforcement alone determines accident statistics. The thesis explicitly identifies road infrastructure, traffic behavior, technology, and interagency coordination as additional influences. The effectiveness question is therefore whether enforcement of Articles 310 and 311 is functioning as one

component of a broader road-safety system. This position is consistent with the thesis finding that the formal rules are already available, but implementation requires stronger institutional, technological, preventive, and cultural support.

DETAILED LEGAL CONTEXT

The legal construction of the two provisions must also be read together with the general objectives of the UU LLAJ. The thesis places road safety within the broader obligation of the state to protect citizens and to organize public road space. The criminal provisions therefore form one part of a wider regulatory system that includes obligations of road users, traffic management, accident investigation, and institutional supervision. From this perspective, the criminal response is not an isolated mechanism. It operates after a legally relevant event has occurred, while the broader traffic system is expected to prevent dangerous conduct before serious harm occurs.

Article 310 is structured around negligent conduct and graduated consequences. The provision covers accidents that produce property damage, minor injury, serious injury, and death. The thesis emphasizes that the degree of consequence affects the severity of the criminal threat, but the legal inquiry still requires proof that the relevant consequence was caused by the driver's negligent conduct. Accordingly, investigators are required to reconstruct the event and establish a causal relationship rather than merely rely on the fact that an accident occurred. This causal requirement protects the integrity of the criminal process by linking responsibility to proven conduct.

Article 311 has a different legal structure because it focuses on a driver who intentionally operates a vehicle in a manner or condition that endangers life or property. The thesis treats the mental element as decisive. The investigation must show circumstances from which conscious dangerous conduct can be established, not merely the existence of a traffic violation or an unfortunate collision. This distinction is important because behavior such as high speed, running a red light, driving against traffic, or street racing must be interpreted in the context of the driver's conduct before and during the incident and must be supported by admissible evidence.

The distinction between the provisions also has consequences for the role of investigators, prosecutors, and courts. Investigators gather and test the initial evidence; prosecutors assess whether the factual and legal construction is sufficient for prosecution; and courts examine the evidence and legal reasoning in an independent adjudicative process. The thesis therefore views consistency across these stages as an important part of legal certainty. A correct legal qualification at the investigation stage contributes to a coherent case file, while appropriate prosecutorial and judicial assessment helps ensure that the final outcome corresponds to the established facts and the applicable provision.

The legal framework also requires attention to the evidentiary role of accident-scene documentation. The thesis identifies vehicle condition, road condition, skid or braking marks, vehicle position, debris, photographs, witness statements, medical findings, and available CCTV as materials that may support reconstruction. STNK and SIM information provides identification and administrative context, while the physical condition of vehicles can reveal whether technical factors may have contributed to the event. The combined use of these materials strengthens the distinction between driver fault and external contributing factors, including road conditions.

The thesis further indicates that the criminal process should protect both victims and suspects through lawful procedure. Evidence must be collected and handled according to the applicable procedural framework, and legal qualification should be based on facts rather than assumptions. This is consistent with the study's use of Radbruch's theory because legal certainty is not simply the existence of a written rule; it also requires predictable and consistent application. Justice requires proportionate treatment according to the established level of fault, and usefulness requires that the enforcement process contribute to public safety rather than merely produce a formal case disposition.

METHOD

This study uses normative-empirical legal research. The normative component examines written legal norms, particularly Articles 310 and 311 of Law Number 22 of 2009 concerning Road Traffic and Transportation, together with relevant legal principles and doctrines. The empirical component examines how those norms are implemented by law enforcement officers in handling traffic accident offenses in Tanjungpinang. The combination is intended to connect law in books with law in action and to assess practical effectiveness in relation to victim fatalities.

Three approaches are used. First, the statutory approach examines the hierarchy and content of laws and regulations relevant to traffic accident offenses, from the 1945 Constitution to Law No. 22 of 2009 and its implementing framework. Second, the conceptual approach examines concepts such as law enforcement, criminal responsibility, legal effectiveness, and victim fatality. Third, the empirical or field approach obtains factual information about how Articles 310 and 311 are applied, what obstacles investigators encounter, and how implementation relates to accident prevention and victim protection.

The research was conducted in Tanjungpinang, the capital of Riau Islands Province. The location was selected because it functions as an administrative, commercial, and transportation center with significant traffic mobility. The population includes law enforcement officials involved in traffic accident cases and traffic accident cases occurring within Tanjungpinang. Relevant officials include police investigators, prosecutors, and judges with direct experience in applying Articles 310 and 311. The case population covers accidents causing death and/or serious injury that have been processed through the criminal justice system.

Samples were selected purposively. Informants were selected based on direct involvement in handling traffic accident cases and sufficient knowledge of Articles 310 and 311. The purposive technique was used because the study requires key informants capable of providing contextual and detailed information about law enforcement practice. The research does not state a numerical sample size in the thesis materials used for this conversion; therefore, no numerical sample size is added here.

Data collection consisted of in-depth interviews, document study, and literature review. Interviews were conducted in structured and semi-structured forms with law enforcement officials and related parties to obtain information on legal qualification, evidentiary considerations, case handling, obstacles, and perceptions of effectiveness. Documentary study covered case files, accident statistics, court decisions, and institutional reports. Literature review examined primary, secondary, and tertiary legal materials, including legislation, legal books, scientific articles, and prior research.

Data were analyzed using qualitative juridical analysis. The process included data reduction by selecting and focusing relevant material; data classification according to themes such as legal substance, officials, facilities, public behavior, and victim fatality; legal interpretation using relevant principles and theories; and deductive conclusion drawing from general legal rules and theoretical propositions toward concrete empirical findings. The analysis was used to assess consistency between normative rules and practical law enforcement.

RESEARCH SETTING AND INTERPRETATION OF EMPIRICAL DATA

The empirical setting is the jurisdiction of the Tanjungpinang City Police Traffic Unit. The research considers accident cases, enforcement practices, and institutional experience rather than attempting to construct a statistical causal model. The purpose is to understand how legal rules operate in concrete circumstances. The thesis therefore combines legal documents with information obtained from actors involved in traffic accident enforcement. This design allows the analysis to compare formal requirements with the actual conditions encountered by investigators and related institutions.

The data are interpreted within the limits of the normative-empirical design. Statements from interviews are considered together with documentary evidence and the legal framework. A single statement is not treated as sufficient to establish a legal conclusion; instead, the analysis looks for consistency among the available sources. This approach is important in accident cases because the reconstruction of an event can be affected by the availability and quality of evidence. The study consequently emphasizes triangulation between legal norms, field information, case documents, and observations of institutional practice.

The analysis also separates three dimensions of effectiveness: legal adequacy, implementation performance, and preventive outcome. Legal adequacy concerns whether Articles 310 and 311 provide an intelligible basis for assigning responsibility. Implementation performance concerns whether investigators and related institutions follow required procedures and possess the tools and competence necessary to process cases. Preventive outcome concerns the extent to which enforcement is accompanied by conditions that can support safer behavior and lower fatality. The thesis finds that the first dimension is comparatively stronger than the second and third, which is why the overall effectiveness remains a continuing policy issue.

RESULTS AND DISCUSSION

1. Regulation of Traffic Accident Offenses in Tanjungpinang

The research shows that traffic accident offenses in Tanjungpinang have a clear legal basis in Law No. 22 of 2009, especially Articles 310 and 311. The cases reviewed in the thesis involve heterogeneous legal subjects, ranging from logistics truck drivers and public transportation drivers to private motorcycle riders. The local character of Tanjungpinang as a commercial and transportation area contributes to the involvement of freight vehicles and commuter traffic in fatal accident reports.

Article 310 is the provision more frequently applied in the cases reviewed. The thesis attributes this to the fact that many accidents arise from lack of care rather than a demonstrated intention to endanger others. Examples of conduct identified include excessive speed for road conditions, failure to maintain a safe distance, drowsy driving, inattention to road conditions, traffic-sign violations, failure to use protective equipment, and mobile-phone use while

driving. Under Article 310, criminal consequences are graduated according to the harm caused, which supports proportionality between the consequence and the criminal sanction.

Article 311 is narrower because investigators must establish not only that an accident occurred but that the driver intentionally operated the vehicle in a dangerous manner or condition. The thesis associates this provision with conduct such as street racing, driving against traffic, running traffic lights, alcohol-related dangerous driving, or maintaining very high speed in crowded areas when supported by evidence of conscious dangerous behavior. The different mental elements mean that proof of intent is the central challenge distinguishing Article 311 from Article 310.

In practical terms, investigators assess the causal connection between the driver's conduct and the consequence by examining the accident scene, vehicles, road conditions, witnesses, CCTV where available, expert input, and other lawful evidence under the criminal procedure framework. The determination of a suspect is therefore expected to rest on legally admissible evidence and a demonstrable causal relationship. The thesis emphasizes that the physical and documentary evidence is not merely administrative material but an important foundation for choosing the appropriate criminal provision.

2. Implementation of Law Enforcement by the Police and Other Institutions

Law enforcement in Tanjungpinang begins with preventive activities by the Traffic Unit, including public education, traffic-safety outreach, patrols, traffic management, and periodic police operations. Once an accident occurs, officers secure the scene, assist victims, regulate traffic to prevent secondary accidents, collect and secure evidence, conduct scene examination, obtain witness information, and secure the vehicles involved. These actions are followed by investigation and case-file preparation. The thesis finds that the process generally follows established procedures under the UU LLAJ, criminal procedure law, and internal police rules.

The implementation of Article 310 is relatively dominant. One case described in the thesis involved a motorcycle rider who struck a vehicle ahead because the rider failed to maintain a safe distance and did not pay sufficient attention to traffic conditions. The victim suffered serious injury, and investigators applied Article 310 paragraph (3). The investigation did not identify intent; instead, the conduct was classified as negligence. The suspect was identified after investigators obtained lawful evidence including witness statements, accident-scene examination, a *visum et repertum*, and the vehicle as physical evidence. The case was then forwarded to the public prosecutor.

Article 311 is applied more selectively. One case described in the thesis concerned a driver who traveled at high speed, ran a traffic light, continued driving despite heavy traffic, and collided with several vehicles, causing a death. The investigation concluded that the driver consciously disregarded the safety of other road users, leading investigators to apply Article 311 paragraph (5). The thesis uses this example to illustrate the difference between negligence and intentional dangerous driving. The heavier threat under Article 311 is connected to the more serious fault element rather than merely to the occurrence of an accident.

Evidence management is a central element of implementation. Vehicles may be examined for braking systems, tires, steering systems, damage, and other technical conditions. Photographs or documentation of vehicle positions, the road, braking marks, road-facility damage, and victim conditions can support reconstruction. STNK and SIM documents, CCTV recordings, witness statements, driver statements, expert information, and scene examination findings are also used to reconstruct the event. The thesis concludes that evidence should be secured, examined, and documented from the earliest stage because evidentiary quality affects both legal qualification and victim protection.

The research also records family-based settlement tendencies in some cases, particularly where the offender provides compensation or assistance to the victim's family. From a social perspective, settlement can reduce conflict and facilitate recovery. From a criminal-law perspective, however, the thesis emphasizes that compensation or reconciliation does not automatically extinguish criminal responsibility when the statutory elements of the offense are fulfilled. This distinction matters because the preventive and legal-certainty functions of Articles 310 and 311 remain relevant even when the parties have reconciled.

3. Effectiveness Viewed through Radbruch, Soekanto, and Friedman

The study concludes that the legal regulation itself is relatively adequate, but the effectiveness of its implementation in reducing victim fatalities is not yet optimal. From Radbruch's perspective, legal certainty is supported by the existence of clear provisions that distinguish negligence from intentional dangerous driving. Justice requires proportionate treatment of victims and offenders, while usefulness requires the law to contribute to safer traffic behavior and fewer serious consequences. The thesis therefore evaluates effectiveness through the combined presence of certainty, proportionality, and practical safety benefits.

Soekanto's five-factor framework makes the practical limitations more visible. The first factor, legal substance, is considered adequate because Articles 310 and 311 clearly establish different forms of fault and consequences. The second factor, law enforcement officers, shows operational commitment but also personnel and technical-capacity limitations. The third factor, facilities and infrastructure, is constrained by incomplete CCTV coverage and limited accident-investigation technology. The fourth factor, society, is affected by continued traffic violations and low compliance in some segments. The fifth factor, legal culture, appears in permissive attitudes toward violations and in the tendency to view accidents primarily as misfortune rather than as legal events that may involve criminal liability (Soekanto, 2020).

Friedman's framework leads to a similar conclusion. In terms of legal structure, the police, prosecution, and judicial processes operate according to their respective functions, but interagency coordination and personnel capacity are not fully optimal. In terms of legal substance, the UU LLAJ provides a clear foundation for criminal liability. In terms of legal culture, noncompliance with speed limits, helmet and seat-belt requirements, mobile-phone restrictions, and traffic signs continues to be reported in the thesis. The interaction of these three elements explains why the existence of a strong legal basis does not automatically produce maximum preventive results (Friedman, 2020).

The empirical data cited in the thesis also support the conclusion that fatality reduction requires more than the formal processing of cases. The 2024 accident figures—163 accidents, 24 deaths, 3 serious injuries, and 252 minor injuries—show that the problem has a significant safety dimension. The 2025 figures cited in the thesis—143 accidents, 18 deaths, 2 serious injuries, and 251 minor injuries—suggest a change in recorded volume, but they do not eliminate the need for continued preventive intervention. The study therefore treats fatality reduction as a multidimensional outcome influenced by enforcement, road conditions, technology, public behavior, and institutional coordination.

The application of Article 310 appears operationally easier because negligence can be supported by observable conduct and scene evidence, whereas Article 311 requires a stronger evidentiary foundation regarding the driver's conscious creation of danger. This asymmetry affects legal qualification. The thesis does not treat the more frequent use of Article 310 as evidence that Article 311 is ineffective in itself; rather, it identifies proof of intent as a practical obstacle that limits the circumstances in which Article 311 can be established. The key issue is therefore the quality of evidence and investigative competence needed to distinguish culpa from dolus objectively.

The effectiveness problem is consequently broader than punishment. The thesis recommends that criminal enforcement be integrated with education, CCTV deployment, Electronic Traffic Law Enforcement (ETLE), patrols at accident-prone points, infrastructure improvement, and coordination among the police, transportation authorities, local government, health facilities, prosecutors, courts, and other relevant institutions. The preventive function of traffic law becomes stronger when enforcement is supported by reliable data and safety-oriented interventions.

4. Obstacles to Effective Enforcement

The first major obstacle is proof of the fault element. Investigators must establish the causal relationship between the driver's conduct and the resulting harm and must distinguish negligent conduct from consciously dangerous driving. The thesis identifies CCTV, digital vehicle information, accident reconstruction, expert evidence, and direct witnesses as important evidence, but not all accident locations provide these resources. Limited evidence can make Article 311 particularly difficult to prove even where the driving behavior raises serious safety concerns.

The second obstacle is limited facilities. The investigation unit is described as having limitations in accident-analysis equipment, high-resolution documentation tools, digital mapping, computer-based reconstruction, and complete CCTV coverage. In the absence of these facilities, investigators may have to rely heavily on braking marks, vehicle positions, debris, and witness statements that may differ. The thesis links these limitations to longer investigation processes, potential loss of evidence, and reduced evidentiary quality.

The third obstacle concerns the number and competence of investigators. The thesis states that the number of investigators is not always proportionate to the annual accident caseload and that individual investigators may handle several cases simultaneously. Additional competence is needed in scientific crime investigation, digital vehicle analysis, accident reconstruction, and traffic forensic technology. These skills are increasingly important as vehicle systems and available digital evidence become more complex.

The fourth obstacle is public legal awareness. Recurrent violations identified in the thesis include excessive speed, mobile-phone use while driving, failure to use standardized helmets or seat belts, driving against traffic, running traffic lights, and driving while tired or under the influence of alcohol. Such behavior indicates that traffic safety is not yet consistently prioritized as a legal and social responsibility. The perception that an accident is merely a misfortune can also weaken the deterrent function of criminal enforcement.

The fifth obstacle is the continuing use of reconciliation or family settlement in some cases. While social reconciliation can have restorative value, the thesis cautions that excessive reliance on settlement can reduce the perceived certainty of criminal enforcement if it is treated as a substitute for formal accountability. The sixth obstacle is road infrastructure, including faded markings, insufficient public lighting, incomplete signs, damaged road surfaces, and insufficient safety facilities. These conditions may increase accident risk and complicate causal analysis when both driver behavior and road conditions contribute.

The final obstacle is incomplete interagency coordination. Traffic accident management involves the police, transportation agencies, public works, hospitals, insurance-related institutions, prosecutors, courts, and local government. The thesis notes that recommendations concerning accident-prone locations are not always followed promptly by road repairs, additional lighting, or new traffic signs. A fragmented response can allow risk conditions to persist and may contribute to repeated accidents at the same location.

5. Solutions and Policy Implications Identified in the Thesis

The first solution is to strengthen investigators' capacity to apply Articles 310 and 311. Training is recommended in accident-scene processing, scientific crime investigation, reconstruction, digital vehicle analysis, and proof of intentional dangerous driving. Strengthening these skills would help investigators distinguish more accurately between negligence and dangerous conduct committed with awareness of the risk and would improve the evidentiary basis for the selected article.

The second solution is modernizing investigation facilities. The thesis proposes support for Traffic Accident Analysis equipment, digital documentation cameras, drones for mapping accident locations, vehicle-speed measurement devices, and accident-reconstruction software. Expanded CCTV coverage is also recommended on main roads, major intersections, and accident-prone areas. Such tools can provide objective electronic and physical evidence and reduce dependence on limited eyewitness accounts.

The third solution is consistent and proportionate enforcement. The thesis recommends applying Articles 310 and 311 according to their legal elements and the facts established in each case, without differentiating treatment based on social status or background. Where the evidentiary elements of intentional dangerous driving are established, Article 311 should be considered according to its statutory requirements. Consistency is presented as important for legal certainty and deterrence.

The fourth solution is sustained public legal education. Outreach should involve schools, universities, government institutions, driver communities, transport companies, and mass media. Education should explain both traffic rules and the criminal consequences of accidents that cause serious injury or death under Articles 310 and 311. The purpose is not merely awareness of sanctions but the development of a traffic culture in which road safety is treated as a legal and moral responsibility.

The fifth solution is road-safety infrastructure improvement. Local government and relevant agencies are urged to evaluate accident-prone locations regularly and improve signs, road markings, public lighting, speed-control devices, damaged road sections, and protective barriers where needed. The thesis views safe infrastructure as complementary to legal enforcement because safer road design can reduce accident risk and make enforcement more effective.

The sixth solution is stronger interagency coordination and data-based prevention. The police, transportation authorities, public works agencies, hospitals, prosecutors, courts, insurance institutions, and local government should exchange accident data, review dangerous locations, coordinate preventive measures, and accelerate follow-up on investigation recommendations. Accident patterns should be mapped by time, location, vehicle type, driver characteristics, and causes so that patrols, operations, CCTV installation, and education can be directed toward higher-risk contexts. According to the thesis, integrated and continuous action across legal, institutional, technological, social, and cultural factors is necessary to support the purpose of Articles 310 and 311.

6. ADDITIONAL ANALYSIS OF EVIDENCE AND PREVENTIVE FUNCTION

The evidence issue deserves particular emphasis because it determines both the factual reconstruction of an accident and the legal classification of the conduct. The thesis describes a sequence beginning with scene protection and victim assistance, followed by collection of physical evidence, witness examination, vehicle inspection, review of available CCTV, and other investigative measures. These activities are interconnected. For example, the position of the vehicles, braking marks, debris, vehicle damage, and road condition can help reconstruct the direction and dynamics of the collision. Witness information can clarify behavior immediately before impact, while documentary and medical evidence can confirm the resulting injuries. The greater the evidentiary consistency, the stronger the basis for determining whether negligence or intentional dangerous driving has been established.

The importance of evidence is particularly visible in Article 311 cases. The thesis states that an accident by itself is not sufficient to establish intentional dangerous driving. Investigators must identify facts indicating that the driver consciously operated the vehicle in a manner or condition that endangered life or property. This is why high speed, running a red light, driving against traffic, or street racing must be connected to evidence concerning the driver's behavior and awareness in the circumstances of the event. The research therefore regards the investigative challenge not simply as proving that the driver committed a traffic violation, but as constructing a legally sustainable explanation of the driver's fault element and its causal relationship with the accident.

The implementation findings also indicate the importance of early evidence preservation. CCTV footage can be unavailable because a location lacks cameras, because footage is not retained for a sufficient period, or because access and coordination require additional time. Physical evidence may be displaced or damaged after a collision, while eyewitness memories may differ. The thesis consequently recommends better digital documentation and integrated data systems. Such systems can support more accurate reconstruction and reduce unnecessary dependence on a single source of evidence. They can also assist prosecutors and courts by providing a clearer evidentiary chain from the accident scene to the final legal assessment.

The preventive function of enforcement should be understood alongside the post-accident criminal process. The police preventive activities identified in the thesis include education, outreach, patrols, traffic control, and periodic operations. These activities are important because criminal liability under Articles 310 and 311 normally arises after prohibited conduct has produced a legally relevant consequence. Prevention therefore addresses the earlier stage of risk creation. The thesis recommends a combination of patrols at accident-prone locations, CCTV expansion, ETLE optimization, public education, road engineering, and data-based mapping so that high-risk patterns can be identified before they produce fatalities.

The research also highlights the importance of proportionate institutional responses. The goal is not simply to increase punishment but to improve the accuracy and consistency of legal classification. A clear distinction between negligent conduct and intentional dangerous driving protects legal certainty and prevents the criminal process from becoming arbitrary. At the same time, consistent enforcement supports the deterrent function by making the consequences of risky driving more predictable. This is closely related to Radbruch's balance between certainty, justice, and usefulness and to Soekanto's emphasis on the interaction of legal substance, enforcement capacity, facilities, society, and legal culture.

From an institutional perspective, the proposed solutions are complementary rather than separate. Investigator training is more useful when supported by modern investigation tools. CCTV is more useful when agencies can retrieve and share relevant records promptly. Road repairs are more effective when accident data identify locations requiring intervention. Public education is more persuasive when users observe consistent enforcement and visible improvements in road safety. The thesis therefore treats interagency coordination as a practical condition for connecting these measures. Police, transportation agencies, public works agencies, medical institutions, prosecutors, courts, insurance-related institutions, and local government each hold part of the information or authority needed to respond comprehensively to traffic accidents.

The empirical context further indicates that the nature of the problem is multidimensional. The reported 2024 and 2025 accident figures show that accidents continued to produce deaths, serious injuries, and minor injuries. The thesis does not attribute these outcomes to a single variable. Instead, it associates them with driver behavior, evidentiary and enforcement limitations, infrastructure, technology, legal awareness, and institutional coordination. This broader framing is important because it prevents the evaluation of Articles 310 and 311 from being detached from the real conditions under which road users, investigators, and other institutions operate.

Overall, the results support an interpretation of effectiveness that combines legal correctness with practical prevention. Articles 310 and 311 provide the basic legal structure for assigning criminal responsibility, while the effectiveness of those provisions depends on evidence, institutional capability, facilities, community compliance, legal culture, and preventive coordination. The thesis therefore concludes that reducing fatalities requires a system in which enforcement is professional, evidence-based, and consistent, while prevention operates continuously through education, technology, infrastructure, and data-driven cooperation.

INTEGRATED INTERPRETATION OF THE FINDINGS

One implication of the findings is that the predominance of Article 310 should be read carefully. The thesis does not conclude that investigators disregard serious dangerous driving. Rather, it explains that negligence is the form of fault more frequently established in the available cases and that proof of intent requires a higher evidentiary threshold. The difference therefore reflects both the factual pattern of accidents and the evidentiary structure of the two provisions. Where intent cannot be demonstrated, the case must be classified according to the fault element that can

actually be proven. This approach is necessary to preserve legal certainty and avoid an unsupported escalation of criminal qualification.

Another implication concerns the relationship between victim protection and criminal accountability. The collection of evidence, medical documentation, and vehicle inspection is important not only for identifying the offender but also for establishing the seriousness of the consequences experienced by victims. Serious injury and death have legal relevance under the graduated provisions of Article 310 and Article 311. The thesis consequently treats prompt evidence handling as part of victim protection because delays or losses in evidence can affect the ability of the justice system to establish the correct legal responsibility and to respond appropriately to the harm suffered.

The research also indicates that preventive action should be based on the same information used for enforcement. Accident locations, times, vehicle types, behavioral patterns, and recurring causes can be transformed into prevention priorities. If a location repeatedly presents a combination of high speed, poor visibility, and insufficient road markings, the response should not stop at processing the next accident. Data should inform patrol schedules, traffic engineering, camera placement, public education, and follow-up by the relevant agencies. The thesis therefore advocates a shift from isolated case handling toward a cycle in which enforcement data support prevention and prevention measures, in turn, reduce opportunities for future accidents.

The family-settlement issue also requires a balanced interpretation. The thesis acknowledges that reconciliation and compensation may have social value and may help the victim's family address immediate needs. Nevertheless, these mechanisms should not be confused with the statutory structure of criminal responsibility. The existence of a settlement does not itself determine whether the elements of an offense are fulfilled. From the standpoint of the study, the appropriate role of settlement must therefore be considered together with the public interest, the gravity of the injury, the legal elements of the offense, and the procedural responsibilities of the state.

The findings concerning infrastructure show that road safety is partly dependent on responsibilities outside the police organization. Faded markings, poor lighting, incomplete signs, damaged roads, and limited protective facilities may create conditions in which even careful driving becomes more difficult. They may also complicate the causal analysis of a particular crash. For that reason, enforcement policy should incorporate a road-safety perspective in which police findings are communicated to transportation and public works authorities and converted into corrective action. The thesis sees this institutional feedback loop as important to reducing repeated accidents at known risk locations.

The personnel issue has a similar systemic character. More investigators are not the only answer; the quality of specialization also matters. The thesis identifies scientific crime investigation, accident reconstruction, digital evidence, and traffic forensics as areas in which additional capability is needed. Professional development should therefore be connected to practical investigation tools and standard operating procedures. Better competence without technology may remain limited, while better technology without trained personnel may not produce better results. The proposed solution is consequently a combination of human-resource strengthening and modern evidence infrastructure.

Finally, the combined theoretical analysis shows that the effectiveness problem is not attributable to the text of Articles 310 and 311 alone. Radbruch helps explain why certainty, justice, and usefulness must be considered together. Soekanto shows why legal substance, officials, facilities, society, and culture interact in determining whether rules work. Friedman explains how structure, substance, and culture form a legal system whose components must function together. When these perspectives are read against the empirical findings, the central issue becomes clearer: the legal provisions provide a foundation, but the reduction of fatalities depends on how that foundation is translated into evidence-based practice, institutional cooperation, public compliance, and preventive action.

7. RELATIONSHIP BETWEEN LEGAL ENFORCEMENT AND FATALITY REDUCTION

The thesis emphasizes that victim fatality should be understood as an outcome that reflects several connected processes rather than a single enforcement decision. The criminal provisions operate at the point where an accident has already produced a legally significant consequence, while prevention operates before the event through education, surveillance, patrols, road engineering, and traffic management. This means that the effectiveness of Articles 310 and 311 is partly visible in the quality and consistency of post-accident accountability, but their broader public-safety contribution depends on whether enforcement information is converted into preventive action. A case that is properly investigated can produce information about dangerous behavior, road conditions, or recurring locations that can later be used to reduce risk.

This connection is particularly relevant in Tanjungpinang because the thesis identifies repeated categories of risky behavior. Excessive speed, failure to maintain a safe distance, drowsy driving, violation of traffic signs, mobile-phone use, driving against traffic, and running traffic lights are not only facts for individual case files; they also represent

recurring patterns that can inform public education and police deployment. The thesis therefore recommends that accident data be mapped by location, time, vehicle type, driver characteristics, and cause. The purpose is to identify patterns and to direct preventive resources toward conditions that repeatedly generate risk.

The same principle applies to the use of CCTV and digital evidence. The thesis identifies limited CCTV coverage as a major obstacle, particularly for proving the intentional dangerous-driving element under Article 311. Expanding coverage can improve the quality of individual investigations, but it can also provide a broader prevention function by enabling authorities to identify recurring traffic violations and high-risk conditions. In this respect, technological investment supports both the repressive and preventive dimensions of law enforcement. The benefit depends on complementary procedures for recording, storing, accessing, and documenting digital evidence so that it remains useful throughout investigation, prosecution, and adjudication.

The role of road infrastructure should also be interpreted within this integrated model. When markings are faded, lighting is insufficient, signs are incomplete, or road surfaces are damaged, accident risk can increase independently of criminal intent. Such conditions may also complicate the analysis of fault because the investigator must determine whether a collision resulted solely from driver behavior or was influenced by the road environment. The thesis therefore places infrastructure improvement alongside enforcement rather than below it. The prevention of fatalities is more likely to be supported when law enforcement findings trigger timely responses from transportation and public works authorities.

Public legal education is another bridge between legal enforcement and fatality reduction. The thesis proposes continuous education that explains not only the traffic rules but also the legal consequences under Articles 310 and 311 when violations result in serious injury or death. The educational objective is to build an understanding that traffic safety is a legal and moral responsibility. In the Soekanto framework, such activity addresses the society and legal-culture factors, while in Friedman's framework it supports the cultural component of the legal system. It also reinforces the usefulness dimension of Radbruch's legal objectives by connecting law with practical social protection.

The institutional chain is therefore important from the earliest response to the final preventive follow-up. Police handling at the scene produces evidence and identifies immediate risks. Prosecutorial and judicial processes assess the legal sufficiency of the case. Meanwhile, transportation and public works authorities can use accident information to address road risks, while medical and other related institutions contribute information about victim conditions and service responses. The thesis argues that stronger coordination among these actors can reduce duplication, speed up information exchange, and improve the implementation of recommendations concerning high-risk locations.

From this perspective, the study's findings do not support a narrow understanding of effectiveness as the frequency with which a particular provision is charged. The more relevant question is whether the legal system can correctly identify fault, process the case according to law, protect the interests of victims and other parties, and convert lessons from accidents into preventive measures. The thesis's recommendations are therefore mutually reinforcing: stronger investigators improve evidence; better technology supports investigation; better coordination links evidence to preventive action; stronger public education reduces risky behavior; and safer infrastructure reduces environmental risk. Together these measures provide the practical context within which Articles 310 and 311 can contribute to fewer serious consequences on the road.

8. Overall Assessment of Implementation Conditions

The overall assessment in the thesis is that implementation is functioning but remains constrained by conditions that are partly outside the criminal provision itself. The police have established a sequence of preventive activities and post-accident procedures, and investigators generally use scene examination, witness statements, vehicle evidence, medical information, and available CCTV to establish the facts. The legal framework also supplies differentiated provisions for negligence and intentional dangerous driving. These elements provide a functioning foundation for accountability. The continuing problem is the uneven capacity to convert that foundation into consistent, evidence-rich, and prevention-oriented outcomes across different accident situations.

The thesis consequently places particular importance on evidence quality and institutional capability. When evidence is complete, investigators can explain the sequence of events, identify the driver's conduct, determine the resulting harm, and select the applicable article more confidently. When evidence is incomplete because of missing CCTV, few eyewitnesses, damaged physical evidence, or limited technical tools, the ability to distinguish negligence from intentional dangerous driving becomes more difficult. This does not change the legal distinction between Articles 310 and 311; rather, it demonstrates how the practical effectiveness of that distinction depends on the conditions under which the law is implemented.

The findings also suggest that consistency is a process rather than a single decision. Consistency begins with scene handling and evidence preservation, continues through legal analysis and case-file preparation, and extends to

prosecution and adjudication. It also includes the post-case dimension in which accident information is used for prevention. The thesis therefore recommends strengthening standard practices for evidence documentation, improving the technical competence of investigators, and building communication channels that allow relevant institutions to receive and act upon accident findings. Such continuity can help ensure that individual cases contribute to broader road-safety learning rather than being treated as isolated events.

At the community level, the thesis identifies legal awareness as a necessary complement to institutional enforcement. Rules concerning speed, protective equipment, traffic signals, lane direction, fatigue, alcohol, and mobile-phone use can only function preventively when road users understand and follow them. Legal enforcement can create consequences for violations and accidents, but sustained public education can address the behavior before a criminal event occurs. This is why the proposed solution is not limited to investigation or punishment. It also includes education through schools, universities, government institutions, driver communities, transport companies, and media, together with visible and consistent traffic supervision.

In this integrated reading, the reduction of fatalities is approached as a shared public responsibility. The police have an enforcement role, but transportation and public works authorities influence road design and infrastructure; medical institutions contribute to victim handling and injury documentation; prosecutors and courts contribute to procedural and adjudicative stages; local government supports prevention policy; and the community determines a large part of daily traffic behavior. The thesis therefore frames effective implementation of Articles 310 and 311 as part of a broader system in which criminal law, institutional capacity, technology, infrastructure, and legal culture must support one another.

CONCLUSION

The study finds that the legal regulation of traffic accident offenses in Tanjungpinang is firmly grounded in Articles 310 and 311 of Law Number 22 of 2009 concerning Road Traffic and Transportation. Article 310 is primarily applied to accidents caused by negligence, while Article 311 concerns intentional driving in a dangerous manner. The distinction between culpa and dolus is central to legal qualification and requires reliable evidence of the driver's conduct and its causal relationship with the resulting harm.

The implementation of law enforcement generally follows established procedures, including preventive traffic activities, accident-scene handling, evidence collection, investigation, prosecution, and judicial processing. Article 310 is more frequently used because negligence is more commonly identified and is comparatively easier to prove. Article 311 is applied selectively when evidence can establish conscious dangerous driving. Physical and documentary evidence—including vehicles, scene documentation, STNK and SIM, CCTV where available, witness statements, expert information, visum et repertum, and scene examination—plays an important role in establishing the facts of a case.

Nevertheless, the effectiveness of law enforcement in reducing victim fatalities is not yet optimal. The obstacles identified in the thesis include difficulties in proving negligence and intent, limitations in accident-investigation technology and CCTV coverage, insufficient personnel and technical competence, low traffic-law awareness, family-based settlements, unsafe road infrastructure, and incomplete interagency coordination. Viewed through Radbruch, Soekanto, and Friedman, these obstacles demonstrate that legal effectiveness depends not only on legal rules but also on institutional capacity, facilities, community behavior, and legal culture.

The thesis therefore recommends strengthening investigator competence, modernizing investigation technology, expanding CCTV and digital evidence systems, applying Articles 310 and 311 consistently and proportionately, expanding traffic-safety education, improving road infrastructure, strengthening interagency coordination, and using accident data for preventive planning. The intended result is an integrated enforcement system in which criminal accountability, legal certainty, justice, usefulness, public compliance, and road-safety prevention operate together to reduce serious injuries and fatalities in Tanjungpinang

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LAW ENFORCEMENT OF TRAFFIC ACCIDENT OFFENSES IN TANJUNGPINANG: EFFECTIVENESS OF ARTICLES 310 AND 311

Rahadi Pratama *et al*

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